

CLASS EXERCISES

Algebra 2
Unit #2
WS #10

By what number would you multiply to rationalize the denominator?

1. $\sqrt{\frac{1}{5}}$
2. $\sqrt{\frac{5}{12}}$
3. $\sqrt[3]{\frac{1}{2}}$
4. $\sqrt[3]{\frac{2}{9}}$

Tell whether or not each radical is in simplest form. If the expression is not in simplest form, tell why it is not.

5. $\sqrt{20x^3}$
6. $\sqrt[3]{81x}$
7. $\sqrt{\frac{6}{2}}$
8. $\frac{\sqrt{2}}{5}$

PRACTICE EXERCISES

Simplify.

1. $\sqrt{3} \cdot \sqrt{3}$
2. $\sqrt{2} \cdot \sqrt{2}$
3. $\sqrt{11} \cdot \sqrt{11}$
4. $\sqrt{6} \cdot \sqrt{12}$
5. $\sqrt{5} \cdot \sqrt{40}$
6. $\sqrt[3]{3} \cdot \sqrt[3]{18}$
7. $\sqrt[3]{10y^3} \cdot \sqrt[3]{25y^3}$
8. $\sqrt{3x} \cdot \sqrt{3x}$
9. $\sqrt{7xy} \cdot \sqrt{7xy}$
10. $\sqrt{3x} \cdot \sqrt{5x}$
11. $3\sqrt{7x^3} \cdot 2\sqrt{21x^3y^2}$
12. $4\sqrt{2x} \cdot 5\sqrt{6xy^2}$
13. $4\sqrt[3]{5y^3} \cdot 2\sqrt[3]{50y^4}$
14. $-\sqrt[3]{2x^2y^2} \cdot 2\sqrt[3]{16x^5y}$
15. $\frac{\sqrt{500}}{\sqrt{5}}$
16. $\frac{\sqrt{32}}{\sqrt{2}}$
17. $\frac{\sqrt{96}}{\sqrt{8}}$
18. $\frac{\sqrt{48x^3y^4}}{\sqrt{3xy^2}}$
19. $\frac{\sqrt{56x^5y^5}}{\sqrt{7xy}}$
20. $\frac{\sqrt{36x^3}}{\sqrt{12x}}$
21. $\frac{\sqrt{x}}{\sqrt{2}}$
22. $\frac{\sqrt{5}}{\sqrt{8x}}$
23. $\frac{\sqrt{2}}{\sqrt{5}}$
24. $\frac{\sqrt{3x}}{\sqrt{6}}$
25. $3(\sqrt{2} - 3\sqrt{5})$
26. $-2(\sqrt[3]{6} + \sqrt[3]{2})$
27. $\frac{1 + \sqrt{2}}{\sqrt{2}}$
28. $\frac{3 + \sqrt{5}}{\sqrt{5}}$
29. $\frac{2 - \sqrt{7}}{\sqrt{7}}$
30. $\frac{\sqrt{3} - \sqrt{2}}{\sqrt{8}}$
31. $\sqrt{8y^5} \cdot \sqrt{40y^2}$
32. $\sqrt{7x^5} \cdot \sqrt{42xy^9}$
33. $\sqrt[3]{6} \cdot \sqrt[3]{16}$
34. $\sqrt[3]{4} \cdot \sqrt[3]{80}$
35. $\sqrt{x^5y^5} \cdot 3\sqrt{2x^7y^6}$
36. $5\sqrt{2xy^6} \cdot 2\sqrt{2x^3y}$
37. $\sqrt{2}(\sqrt{50} + 7)$
38. $\sqrt{3}(5 + \sqrt{21})$
39. $\sqrt{5}(\sqrt{5} + \sqrt{15})$
40. $\sqrt{8}(\sqrt{24} + 3\sqrt{8})$
41. $\sqrt[3]{2x} \cdot \sqrt[3]{4} \cdot \sqrt[3]{2x^2}$
42. $\sqrt[3]{3x^2} \cdot \sqrt[3]{x^2} \cdot \sqrt[3]{9x^3}$
43. $\frac{15\sqrt{60x^5}}{3\sqrt{12x}}$
44. $\frac{\sqrt{3xy^2}}{\sqrt{5xy^3}}$
45. $\frac{\sqrt{5x^4y}}{\sqrt{2x^2y^3}}$
46. $\frac{5\sqrt{2}}{3\sqrt{7x}}$
47. $\frac{-6\sqrt{7}}{-5\sqrt{3y^3}}$
48. $\frac{4\sqrt{2xy}}{9\sqrt{5x^2y}}$
49. $\frac{1}{\sqrt[3]{9x}}$
50. $\frac{10}{\sqrt[3]{5x^2}}$
51. $\frac{\sqrt[3]{14}}{\sqrt[3]{7x^2y}}$
52. $\frac{3\sqrt{11x^3y}}{-2\sqrt{12x^4y}}$
53. $\frac{4 + \sqrt{5}}{\sqrt{72}}$
54. $\frac{7 + \sqrt{6}}{\sqrt{84}}$
55. $\frac{(\sqrt{4x})^2(\sqrt[3]{3x})^3}{\sqrt{5}}$
56. $\frac{(\sqrt[3]{7x^3y})^3(x)^2}{\sqrt{32x}}$
57. $\sqrt{\sqrt{16x^4y^4}}$
58. $\sqrt[3]{\sqrt{64x^6y^{12}}}$
59. $\sqrt{(\sqrt[4]{16x^8y^{20}})^2}$
60. $\sqrt{\sqrt[3]{8000}}$